WHAT IS CLAIMED IS:

1. A semiconductor device having a trench isolation for electrically isolating a semiconductor element from other semiconductor elements, comprising:

a semiconductor substrate having a trench for said trench isolation that is located in a main surface of said semiconductor substrate; and

a buried insulating layer filling the inside of said trench and having its top surface entirely located above the main surface of said semiconductor substrate;

a part of said buried insulating layer that protrudes from the main surface of said semiconductor substrate having a projecting portion which is located on the main surface of said semiconductor substrate and projects outward from a region directly above said trench, and

said projecting portion having a structure formed of at least two stacked insulating layers.

2. The semiconductor device having the trench isolation according to claim 1, wherein

said projecting portion has a structure formed of a first oxide film and a second oxide film that are stacked.

3. The semiconductor device having the trench isolation according to claim 1, wherein

said projecting portion has a structure formed of an oxide film and a nitride film that are stacked.

4. The semiconductor device having the trench isolation according to claim 1, wherein

said projecting portion has a thickness of at least 23 nm and at most 75 nm.

5. The semiconductor device having the trench isolation according

to claim 1, further comprising a gate insulating film formed on the main surface of said semiconductor substrate, wherein

said gate insulating film has its width, defined in a cross section of said semiconductor device, between one portion and the other portion of said buried insulating layer, an active region has its width defined in said cross section between one portion and the other portion of said trench, and the width of said gate insulating film is smaller than the width of said active region.